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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,985	09/30/2003	Richard Louis Arndt	AUS920030601US1	4994
35525	7590	01/25/2008		
IBM CORP (YA) C/O YEE & ASSOCIATES PC P.O. BOX 802333 DALLAS, TX 75380			EXAMINER CHRISTENSEN, SCOTT B	
			ART UNIT 2144	PAPER NUMBER
			NOTIFICATION DATE 01/25/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptonotifs@yeeiplaw.com

Office Action Summary

Application No.

10/674,985

Applicant(s)

ARNDT ET AL.

Examiner

Scott Christensen

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in regards to the most recent papers filed on 9/30/2003.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "340A" has been used to designate both DMA and memory in figure 3A. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Figure 8: 800, 816, and 818 and

Figure 11: 1113.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with

37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: Page 33, paragraph 2, line 8 refers to "transport 718." This should apparently read "transport header 718."

Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 2-4, 6, and 8-10 are objected to because of the following informalities:

Each of the instant claims states "further comprising the steps of:" but only sets forth one step. To be grammatically correct, each of these claims should state, "further comprising the step of:"

Appropriate correction is required.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 11-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With regard to claim 11, the instant claim is directed towards a system comprising a first plurality of resources, a second plurality of resources, and a channel adapter. The plurality of resources are apparently part of the channel adapter. The channel adapter, meanwhile, can apparently be implemented as software alone (See, for example, the instant specification, the paragraph joining pages 50 and 51).

Therefore, the system claimed in claim 11 may apparently be directed towards software alone. Software per se is nonstatutory. For a system claim to be found statutory, each and every embodiment that may be within the scope of the claim must not be directed towards software alone (e.g. comprise at least some component that is hardware).

Claims 12-20, which depend from claim are rejected for the same. It is noted that claims 14 and 17 do recite a hardware register, but the hardware register is not

disclosed as being part of the system. Rather, in claim 14, the hardware register is utilized by the channel adapter, and in claim 17, the channel adapter stores information in a hardware register that is not claimed as being part of the system.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

10. Claims 1, 2, 9, 11, 12, and 19 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant admitted prior art.

With regard to claim 1, Applicant discloses a method of logically partitioning a plurality of resources of a single channel adapter for use in a system area network, wherein said single channel adapter is shared by different partitions, comprising:

assigning a first one of said plurality of resources to a first partition (Specification: Page 4. The plurality of resources within the channel adapter are assigned to the first partition.);

assigning a second one of said plurality of resources to a second partition (Specification: Page 4. The plurality of resources within the channel adapter are assigned to a second partition. It is noted that according to claim 5, the first and second partition may be the same partition.);

enforcing partitioning of said plurality of resources by permitting access to said first one of said plurality of resources by said first partition and permitting access to said second one of said plurality of resources by said second partition (Specification: Page 4. The partition that is assigned the channel adapter can access the channel adapter.).

With regard to claim 2, Applicant discloses:

enforcing partitioning of said plurality of resources by permitting access to said first one of said plurality of resources only by said first partition and permitting access to said second one of said plurality of resources only by said second partition (Specification: page 4. The operating system (partition) that was assigned the channel adapter has complete and direct control of the channel adapter, meaning only the partition that was assigned the channel adapter has access to it.).

With regard to claim 9, Applicant discloses:

permitting software to set arbitrary relationships between one of said plurality of resources after said ones of said plurality of resources are partitioned (The claim, as presented, does not state any function of the arbitrary relationships between the resources. Further, there is no requirement as to where the relationships are stored. Therefore, any software, user, entity, etc. is permitted to set arbitrary relationships between the resources at any time, as the relationship does not need to have any relevance to the claimed system or method.).

With regard to claims 11, 12, and 19, the instant claims are substantially similar to claims 1, 2, and 9, and are rejected for substantially similar reasons.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application Publication Number 2003/0018828 to Craddock et al., hereafter referred to as "Craddock" in view of US Patent Number US 6,467,007 to Armstrong et al., hereafter referred to as "Armstrong."

With regard to claim 1, Craddock discloses a method of logically partitioning a plurality of resources of a single channel adapter for use in a system area network, comprising:

assigning a first one of said plurality of resources to a first host (Craddock: Paragraph [0072]. Different partition keys are associated with each host, where the partition keys facilitate the allocation of resources.);

assigning a second one of said plurality of resources to a second host (Craddock: Paragraph [0072]. Different partition keys are associated with each host, where the partition keys facilitate the allocation of resources.);

enforcing partitioning of said plurality of resources by permitting access to said first one of said plurality of resources by said first host and permitting access to said second one of said plurality of resources by said second host (Craddock: Paragraph [0072]. As resources are allocated to each host, the host can clearly access at least the resources that are allocated to it. It is noted that there is no requirement that the resources can only be accessed by the host that was allocated to it.).

Craddock does not disclose expressly that the hosts are partitions.

However, Armstrong discloses partitioning a single system into logical partitions, where the single system operates like multiple and independent "virtual" computers, and the resources of the system are allocated among the various partitions (Armstrong: Column 1, lines 44 to 52).

It would have been obvious to a person of ordinary skill in the art to combine the partitioning of Armstrong with the resource allocation of Craddock.

The suggestion/motivation for doing so would have been that logical partitioning allows at least partial operation of the system in cases of partial system failure.

Software flaws can cause a processor to hang or proceed in an infinite loop. With logical partitioning, the other partitions (unless the partitions have the same error) would still be operational, allowing the system as a whole to have at least a partial operational status (Armstrong: Column 2, lines 1-16).

With regard to claim 2, Craddock as modified by Armstrong teaches the invention as substantially claimed except that:

enforcing partitioning of said plurality of resources by permitting access to said first one of said plurality of resources only by said first partition and permitting access to said second one of said plurality of resources only by said second partition.

However, Examiner takes Official Notice (See MPEP §2144.03) that this functionality was well known by a person of ordinary skill in the art.

The Applicant is entitled to traverse any/all Official Notice taken in this action according to MPEP §2144.03. However, MPEP §2144.03 further states "See also *In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice)."

Specifically, *In re Boon*, 169 USPQ 231, 234 states "as we held in *Alhert*, an applicant must be given the opportunity to challenge either the correctness of the fact asserted or the notoriety or reputation of the reference cited in support of this assertion. We did not mean to imply by this statement that a bald challenge, with nothing more, would be all that was needed." Further note that 37 CFR §1.67(c)(3) states "Judicial notice means official notice." Thus, a traversal by the Applicant that is merely "a bald challenge, with nothing more" will be given very little weight.

It would have been obvious to allow only the partition that was allocated the resources to access the resource that it was allocated.

The suggestion/motivation for doing so would have been that according to *Craddock*, the partition keys (as relied upon in the rejection of claim 1) are utilized to facilitate the allocation of resources and scheduling events. As the resources are

allocated to certain hosts (or partitions, as per the combination of references), a person of ordinary skill in the art would have been clearly motivated to allow only the hosts allocated to the resources to access those resources to prevent conflicts.

With regard to claim 3, Craddock as modified by Armstrong teaches the step of: determining a partition to which one of said plurality of resources is assigned utilizing a partition identifier (Craddock: Paragraph [0072]).

However, Craddock as modified by Armstrong does not teach expressly that the identifier is stored within said one of said plurality of resources.

However, Examiner takes Official Notice (See MPEP §2144.03) that this functionality was well known by a person of ordinary skill in the art.

It would have been obvious to store the identifier in the one of said plurality of resources.

The suggestion/motivation for doing so would have been there are a finite number of locations that the identifier may be stored. The identifier may be stored with the entity that is managing the resources, the resources themselves, another memory of some sort, or the host that was allocated the resource. By storing the identifier within the resource, the resource can make a determination if it is allocated the specific partition that is attempting to access it, which means that the partitions would be able to directly communicate with the resources, rather than using a controller for each and every communication.

With regard to claim 4, Craddock as modified by Armstrong teaches the invention as substantially claimed except:

enforcing partitioning of said plurality of resources utilizing a hardware register included within each one of said plurality of resources.

However, Examiner takes Official Notice (See MPEP §2144.03) that this functionality was well known by a person of ordinary skill in the art.

It would have been obvious to utilize a hardware register included within each one of said plurality of resources for enforcing the partitioning.

The suggestion/motivation for doing so would have been that a memory of some sort would have to be utilized for storing information concerning the partitioning. As stated with regard to claim 3, having the resource storing the information allows the partitions to directly communicate with the resources, which can enforce the partitioning. By utilizing a register as opposed to a larger memory, the information can be stored in a single location that is easier to access through hardware means than the information that is stored in a larger memory location. This is especially useful if the identifier is checked with each and every transaction, as the access time would be reduced as opposed to a larger memory storing the identifier. Further, it is noted that there is no requirement as to how the hardware register is utilized for enforcing the partition (which only requires that access is granted, not restricted), therefore, any utilization of a hardware register for allowing partitions to access the resource would meet the claim language.

With regard to claim 5, Craddock as modified by Armstrong teaches the invention as substantially claimed except:

attempting, by said second one of said plurality of resources, to access said first one of said plurality of resources;

determining whether said first and second ones of said plurality of resources are assigned to the same partition by determining whether said second partition and said first partition are the same partition;

in response to a determination that the said second partition and said first partition are the same partition, permitting said access of said first one of said plurality of resources by said second one of said plurality of resources; and

in response to a determination that said second partition and said first partition are different partitions, prohibiting said access of said first one of said plurality of resources by said second one of said plurality of resources.

However, it would have been obvious to implement this functionality within the teachings of Craddock as modified by Armstrong.

The suggestion/motivation for doing so would have been that the channel adapter has many resources that interact with each other in order to perform the required operations (Craddock: Figure 3). As such, information is being passed from resource to resource within the host channel adapter. By checking with each resource whether the information is from the resource's allocated partition, conflicts that occur within resources can be avoided. Further, if an error does occur, and a resource is

accessing another resource that is not assigned the same partition, an error code can be generated to allow the system to correct the problem.

With regard to claim 6, Craddock as modified by Armstrong teaches:

in response to a determination that said second partition and first partition are different partitions, reporting the error (Craddock: Paragraph [0062]. As the resource does not accept the input, as per the rejection of claim 5, the transaction would not be completed, thus causing an error code to be generated.).

With regard to claim 7, Craddock as modified by Armstrong teaches the invention as substantially claimed (see above for claims 3 and 4, rejected under Craddock in view of Armstrong), including:

requesting, by an operating system, one of said plurality of resources of a particular type (Craddock: Paragraph [0072]. Each host (or partition, as in the combination of references) is allocated specific resources.);

selecting, by a hypervisor, a particular one of the plurality of resources that is said particular type (Craddock: Paragraph [0072]. Each host (or partition, as in the combination of references) is allocated specific resources. This functionality is performed by some code that is equivalent to a "hypervisor." It is noted that a "hypervisor" may simply be trusted code that performs accesses to the hardware, as per the instant specification, page 6, paragraph 2.); and

determining a partition to which said operating system is assigned (Craddock: Paragraph [0072]. This functionality must be performed, as the operating system, which is on the host (or partition, as in the combination of references) makes the request, and the host is allocated the resource.).

With regard to claim 8, Craddock as modified by Armstrong teaches:
permitting only said hypervisor to alter contents of the hardware register
(Craddock: Paragraph [0072]. In the managed approach, the manager (or hypervisor) is the entity that performs the assigning of the partition keys, therefore, only the hypervisor is permitted to alter the contents of the hardware register.).

With regard to claim 9, Craddock as modified by Armstrong teaches:
permitting software to set arbitrary relationships between one of said plurality of resources after said ones of said plurality of resources are partitioned (The claim, as presented, does not state any function of the arbitrary relationships between the resources. Further, there is no requirement as to where the relationships are stored. Therefore, any software, user, entity, etc. is permitted to set arbitrary relationships between the resources at any time, as the relationship does not need to have any relevance to the claimed system or method.).

With regard to claim 10, Craddock as modified by Armstrong teaches:

enforcing said partitioning using hardware within said channel adapter (As per claim 1, the enforcing only requires that the partitions be able to access the resources. As such, enforcing only requires that the resources are able to be accessed by the partitions. Clearly, any access of the resources must use some sort of hardware within the channel adapter.).

Claims 11-20 are substantially similar to claims 1-10, and are rejected for substantially similar reasons.

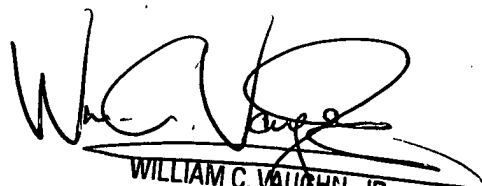
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Christensen whose telephone number is (571) 270-1144. The examiner can normally be reached on Monday through Thursday 6:30AM - 4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vaughn William can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SBC


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